UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Chemical name: chlorsulfuron
Chemical Number: 118601
DP Barcode: 292626

July 26, 2004

MEMORANDUM

SUBJECT: Review of DuPont's phase 1 "Error Correction" comments on the spray drift analysis for chlorsulfuron (MRID 46128400).

TO: Christina Scheltema,
and
Susan Jennings, Special Review and Reregistration Division (7508C)

FROM: Norman Birchfield, Senior Biologist
Environmental Risk Branch 1

Kevin Costello, Risk Assessment Process Leader
Environmental Risk Branch 4

THRU: Elizabeth Behl, Chief
Environmental Risk Branch 4
Environmental Fate and Effects Division (7507C)

The Environmental Fate and Effects Division (EFED) described spray drift risks expected from chlorsulfuron use in a September 2, 2003 memo to the Special Review and Reregistration Division. DuPont submitted a document dated November 18, 2003 during the phase 1 "error correction" period providing itemized comments on the EFED document. None of the DuPont comments represented typographical or mathematical errors that are to be addressed during phase 1. However, some of the DuPont comments suggested that changing the wording in certain locations would improve the clarity and accuracy of the assessment, so some revisions to the original assessment have been made. A revised assessment is being submitted with this memo. Although the spray drift assessment has been modified, none of the overall conclusions of the assessment have changed.

The DuPont comments are numbered from 1 to 18. A response to each comment and the action taken to addresss the comment is provide below.

Reference 1, 2, 3, 5, 6, 7, 8, 9, 10, 12, 14, 15, 16, 18. These comments did not identify typographical or mathematical errors in the EFED spray drift assessment. No changes were made to address these comments.

Reference 4: On page 2 of the RED chapter, under "Mode of Action," EFED wrote that:

"Phytotoxicity data shows that chlorsulfuron affects both seedling emergence and the vegetative vigor at low levels."

In response, DuPont commented that "Chlorsulfuron is not a seedling germination or emergence inhibitor. Seeds germinate and emerge on seed reserves. The effect produced by chlorsulfuron is relevant to early seeding growth and is observed following soil uptake by young plants."

For the sake of clarity, EFED has revised the sentence to read:

"Phytotoxicity data show that chlorsulfuron affects plants in both seedling emergence and the vegetative vigor tests at low levels."

Reference 11: DuPont identified an incorrect definition of the EC_{25} effect level. The description has been modified to better describe the EC_{25} and EC_{05} toxicity levels. The original wording, found on page 6 under "Toxicity," read:

"The EC_{25} effect level measures an effect occurring to 25% of the population. The effect may be reductions in measured dry weight or length."

These sentences have been replaced with:

"The EC_x effect level represents an X% effect to a group of plants. The dose required to cause a 25% reduction in the average shoot height of a group of plants is an example of an EC_{25} toxicity level. Reduction in the dry weight of the plant can also be used in calculating the EC_x."

Reference 13: DuPont took issue with the following statement on pages 6 and 7 of the EFED RED chapter:

"Moreover, homogenous crop test plant seed lots lack the variation that occurs in natural populations, so the range of effects seen from tests is likely to be smaller than would be expected from wild populations."

DuPont commented that "The variability in a population/species can work both ways. Within a

population some plants are much less sensitive to herbicide exposures and, therefore, the natural population as a whole is more robust and less susceptible to serious disturbance from a minor event such as spray drift."

The original sentence was not written to suggest that plants in the field could only be more sensitive than plants tested in the laboratory. Although DuPont's comment is one of scientific interpretation, and not an error correction, EFED modified the wording referenced by DuPont to better convey the intended message:

"Moreover, homogenous crop test plant seed lots lack the variation that occurs in natural populations, so the test plants are likely to have less variation in response than would be expected from wild populations."

EFED will respond to comments from the registrants and others on the potential sensitivity of non-target plants to chlorsulfuron after the close of the upcoming public comment period.

Reference17: DuPont reports the availablity of additional information characterizing the effects of chlorsulfuron on non-target plants. DuPont does not provide the citations, but offers to provide them to the Agency on request. DuPont should provide relevant data it believes could be useful for a more complete risk assessment.